

AEMAET

Wissenschaftliche Zeitschrift für Philosophie und Theologie
<http://aemaet.de>, ISSN 2195-173X

Critical reflections on evolutionism as a scientific or pseudo-scientific theory and as an atheist ideology*

Josef Seifert**

2014

Abstract

The theory of evolution suffers from an extreme unclarity
and can be understood as:

*(Cf. Seifert [2002a,b](#)).

Text is available under the Creative Commons License Attribution 3.0 ([CC BY 3.0](#)). Publication date: 31.03.2014.

**Prof. Dr. phil. habil. Dr. hc. Josef Seifert; born 1945 in Seekirchen (Austria); was Founding Co-Director and Professor of Philosophy in Irving, Texas (1980-1986). He is Founding Rector of the International Academy of Philosophy in the Principality of Liechtenstein (1986) and was Full Professor of Philosophy there (1986-2009), and from 2004-2012 also Full Professor (Profesor titular) at the IAP-PUC, the International Academy of Philosophy at the Pontifical Catholic University of Chile in Santiago, and is Profesor Catedrático (Full Professor), Academia Internacional de Filosofía-Instituto de Filosofía Edith Stein IAP-IFES. Paseo Cartuja 49, 18011 Granada, Granada, Spanien.

Epost: seifert@XYZ.es (replace 'XYZ' by 'iapspain' or 'institutoifes')

1. *A naturalistic, materialist and atheist theory of the origin of life and species*: this theory that transforms evolution into a creator-god or -idol is in no way scientific but purely (pseudo-) philosophical and can be refuted philosophically. The “principles” behind such an “ideological evolutionism” (chance, mutations, natural selection) can only absurdly be thought to be sufficient causes of the origin of species because they ignore

(1) the immense meaning, beauty, and purposefulness in nature which could never be explained by chance (apart from the fact that a haphazard cause of a meaningful nature could at best explain the genesis of one highly ordered being after $10^{1000000000000}$ or more failures;

(2) the vital principles;

(3) the rational human soul; and

(4) the necessity that the cosmos und human persons have an intelligent creator, whose existence can be cogently demonstrated philosophically.

2. *The Theist/Deist theory of a seamless chain of evolution as method of creation through an intelligent Creator-God* is superior to 1, by admitting finality, intelligent design and a divine causality, but retains insurmountable difficulties. The idea of a chain of immanent developments of matter, never interrupted by a creative act, as cause of all species of life, ignores the radical newness of (1) life with respect to life-less matter, (2) of the different vital principles (souls) in plants and animals, (3) of each human mind (soul) compared to other human souls and (4) compared to plants and animals, and (5) contradictorily sticks to those primitive and mythological “principles” and “causes” of evolution which make no sense in a divinely and intelligently planned universe. God creating the world through Darwinian principles would be like Shakespeare, instead of writing *King Lear* himself, choosing to let a monkey type on his typewriter until – after trillions times trillions of years *King Lear* would appear in an infinite series of nonsense such that only an infinitely patient hu-

man being who would have a minimal lifetime of a billion years could possibly find and identify it among the mountains of non-sense.

3. *The theory of “limited (divinely designed) evolution” (trans-species development, by which a given species might be transformed into new species)* recognizes, as a minimum, the unbridgeable limits of an evolutionist reductionist (even divinely designed) “explanation” of life through the life-less, of personal through impersonal being, and of mind (soul) through matter. If freed additionally from Darwinian mythological principles (laws or causes), that are philosophically speaking utterly incapable of explaining on their own the origin of *any* new species with its amazing order and features, it would have to espouse intelligent causes of a speciesism (an “evolution” in a non-Darwinian sense of the term), such as entelechies or the Augustinian rationes seminales.

If the theory of limited evolution within certain genera and species of living things abides by all these “rules”, there is no absolutely cogent *purely philosophical* objection against the possibility of such a partial evolution even though it is, if it only admits the minimal number of absolutely unbridgeable transitions and allows, for example, for bacteria and elephants having the same ancestor, most implausible; and this in view of empirical (and philosophical) reasons: the fundamental and manifold differences of essential forms, the countless “missing links” and “jumps” between the species, etc.

In other words, also this only possibly true theory of (*limited*) evolution is science-fiction, extremely improbable and at any rate absolutely not “proven”, wherefore every school, University, science department and Biology Institute in the world should have not only the right to teach some doctrine of intelligent design or creation alongside evolution, but the right to refuse teaching (except as an influential curiosity in the history of science) a theory which in most of its forms is downright absurd and silly,

and in others pure hypothesis and empty speculation.

Zusammenfassung

Kritische Reflexionen zum Evolutionismus als eine
wissenschaftliche oder pseudo-wissenschaftliche Theorie
und als eine atheistische Ideologie

Die Theorie der Evolution leidet unter einer extremen Unklarheit und kann verstanden werden als:

1. *Eine naturalistische, materialistische und atheistische Theorie über den Ursprung des Lebens und der Arten:* diese Theorie, die Evolution in einen Schöpfer-Götzen verwandelt, ist in keiner Weise wissenschaftlich, sondern reine (Pseudo-) Philosophie und philosophisch widerlegbar. Die „Grundsätze“ hinter einem derartigen „ideologischen Evolutionismus“ (Zufall, Mutationen, „natürliche Auslese“ etc.) können nur absurderweise als zureichende Gründe für die Entstehung der Arten betrachtet werden, denn sie ignorieren (1) den ungeheuren Sinn, die Schönheit und die Zweckmäßigkeit in der Natur, die nie durch Zufall erklärt werden könnten (abgesehen von der Tatsache, dass eine zufällige Ursache höchst sinnvolle Wesen bestenfalls nach $10^{100000000000}$ von Fehlern hervorbringen könnte); (2) Lebensprinzipien (Seelen) der Pflanzen und Tiere; (3) die rationalen menschlichen Seelen, und (4) die Notwendigkeit, daß Kosmos und Menschen einen intelligenten Schöpfer haben müssen, dessen Existenz philosophisch bewiesen werden kann.

2. *Die Theistische/Deistische Theorie einer nahtlosen Kette der Evolution als Methode der Schöpfung durch einen intelligenten Schöpfer-Gott* ist besser als 1, indem sie Finalität, einen intelligenten Plan (intelligent design) und eine göttliche Kausalität anerkennt, enthält jedoch unüberwindliche Schwierigkeiten. Die Idee einer Kette von

immanenten Entwicklungen der Materie, nicht unterbrochen von einem schöpferischen Akt, als Ursache aller Arten des Lebens, ignoriert die radikale Neuheit: (1) des Lebens im Verhältnis zum Leblosen, (2) der verschiedenen Lebensprinzipien (Seelen) von Pflanzen und Tieren (3) jedes menschlichen Geistes (der Seele) im Vergleich zu anderen menschlichen Seelen und (4) im Vergleich zu Pflanzen und Tieren, und (5) hält widersprüchlicherweise an jenen primitiven und mythologischen „Prinzipien“ und „Ursachen“ der Evolution fest, die in einem göttlich und intelligent geplanten Universum keinerlei Sinn haben. Eine göttliche Wertschöpfung durch Anwendung von Zufällen und anderen Darwinistischen Prinzipien wäre wie wenn Shakespeare, statt den *König Lear* selbst zu schreiben, einen Affen auf seiner Schreibmaschine schreiben ließe – bis nach Billionen von Billionen von Jahren *König Lear* nach und inmitten einer unendlichen Reihe von Unsinn auftauchen würde, so daß nur ein unendlich geduldiger Mensch, dem eine minimale Lebensdauer von einer Milliarde Jahren beschieden sein müßte, das Shakespearesche Drama nach und inmitten gigantischer Berge von Unsinn möglicherweise finden und identifizieren könnte.

3. *Theorie einer eingeschränkten (von einem intelligenten göttlichen Design hervorgebrachten) Evolution (verstanden als Trans-Arten-Entwicklung, durch die eine gegebene Art sich in neue Arten verwandelt)*: Diese Theorie kennt zahlreiche Varianten, je nachdem wie sehr eingeschränkt sie die Evolution versteht. In ihrer Minimalform erkennt sie nur die unüberbrückbaren Grenzen einer Erklärung der Entstehung der Arten durch Evolution an. Sie erkennt, daß es wesensunmöglich ist, das völlig neue Phänomen pflanzlichen und tierischen Lebens ohne Neuschöpfung aus unbelebter Materie abzuleiten oder gar ein personales Wesen und eine geistige Seele aus Tieren oder auch aus anderen menschlichen Seelen durch „Evolution“ zu erklären. Auch erkennt sie es zusätzlich als unmöglich an, aus mythologischen Darwinistischen „Prinzipi-

en“ und Ursachen, welche philosophisch gesehen schlichtweg dazu unfähig sind, die Entstehung *irgendeiner neuen* Art mit deren erstaunlicher Ordnung und Fülle an sinnvollen Formen, Teilen und Funktionen zu erklären. Zudem bekennt sie intelligente Ursachen der „Evolution“ (im nicht-darwinistischen Sinne des Begriffs) und transspezifischer Übergänge, die nur durch nicht-Darwinsche Prinzipien oder Ursachen, etwa durch „Entelechien“ oder die *rationes seminales* im Sinne Augustins, erfolgen würden.

Wenn alle diese „Regeln einer begrenzten Evolutionstheorie“ eingehalten und überdies Evolution nur *innerhalb* von Pflanzen oder Tieren, oder besser nur innerhalb bestimmter Gattungen und Arten von Lebewesen des Pflanzen- oder Tierreichs (etwa Insekten, Säugetieren, katzenartigen, hundeartigen Tieren, etc.) angenommen wird, gibt es keine absolut zwingenden *rein philosophischen* Einwände gegen die Möglichkeit einer solchen partiellen Evolution. Dabei bleiben jedoch so viele Ungereimtheiten bestehen, wenn man eine Evolution von Bakterien bis zu Elefanten, die aus der gleichen Zellenurmutter entstanden sein sollen, annimmt, daß man aus vielen empirischen (und philosophischen) Gründen es für äußerst unwahrscheinlich halten muß, daß auch nur innerhalb desselben Reichs, etwa der Tiere, eine nahtlose oder auch nur eine weitgehende Evolution stattgefunden haben soll. (Dagegen sprechen die grundlegenden Unterschiede der Wesensformen und unzählige „Missing Links“ und „Sprünge“ zwischen den Arten). Zumindest ist auch eine solche, und selbst eine ganz eingeschränkte, Evolutionstheorie absolut nicht „bewiesen“.

Mit anderen Worten, auch diese einzige möglicherweise wahre begrenzte Evolutionstheorie ist Science Fiction, extrem unwahrscheinlich und jedenfalls absolut nicht „bewiesen“, weshalb jede Schule, Universität, Fakultät und jedes Institut für Biologie auf der ganzen Welt nicht nur das Recht haben sollte, eine Lehre von „intelligent Design“

oder Schöpfung neben Evolution zu unterrichten, sondern es abzulehnen, eine unbewiesene Theorie, die in den meisten ihrer Formen schlichtweg absurd und dumm, und in anderen reine Hypothese und leere Spekulation ist, überhaupt, es sei denn als einflußreiche (un)wissenschaftliche Kuriosität der Wissenschaftsgeschichte, zu unterrichten.

1 Introduction

One of the many dangerously confused, half-scientific, half-philosophical theories thought up by scientists is the theory of evolution that quickly moved from a mere hypothesis to an unshakable belief of many scientists, and from being applied only to the limited sphere of reality accessible to natural science, to being transposed into the wide and profound fields of philosophical anthropology and metaphysics, thereby undergoing a metamorphosis from a scientific theory into an atheist and materialist philosophy and ideology of evolutionism that pretends to explain the nature and origin of life as such and of human beings in an ultimate way, turning the product of the extraordinarily confused bag of largely truly silly and unsupported ideas that is called “evolution” into a new God or Idol that created the whole world including man and that demands an absolute faith and bending their knees from the scientific and general academic community such that whoever does not believe in this evolutionist God is regarded as a blasphemer of reason, as a freak, as a fundamentalist, or plainly as a weirdo and idiot.

Even as an apparently “purely scientific” theory that brackets any metaphysical pretensions and is taken as a non-philosophical one, the theory of evolution (as Karl Popper noted) is, rigorously speaking, not scientific at all: there is no proof of it whatsoever, nor can its verisimilitude be corroborated by any purely empirical

means; even less is there any a priori method that could intuit its truth or prove it. Far from possessing the potential for winning a rational victory over the minds of people, the theory can be seen to contradict the real world inasmuch as the facts of nature deviate greatly from those facts which one would have to expect in view of the theory of evolution.

Moreover, a “purely scientific hypothetical theory of evolution” that could prescind from any philosophical assumption does not exist and is impossible. Already any real understanding of what the highly confused term “evolution” means requires philosophy; moreover, each single one of the different meanings of evolution and senses of the “theory of evolution” entails, besides claims that only empirical science can test, a host of philosophical assumptions about matter, about life, about causality, about chance and necessity, about “laws” and explanations, about the human person, and, both in its atheistic and theistic forms, about God. Its philosophical premises are so numerous and significant that we feel completely confident to stay entirely in our own field of philosophy if we propose a critical analysis of evolution theories and of evolutionism.

It is astonishing how a theory, which at least in most of its forms, not only lacks any empirical proof and contradicts practically every single empirical observation, but is utterly confused and philosophically speaking, in its most widespread forms, evidently false and even absurd, could exert such an incredibly strong influence over well-nigh the whole world. It is as if a magic spell were thrown upon educated humanity so that it gets so blind to the faults of the theory that it identifies it with the only acceptable one about the origin of life and of the species of life, to such an extent that even the most freedom-loving countries like the United States and the states of the European Union pass laws that impose the teaching of this silly and unscientific theory at schools and forbid the only reasonable science, philosophy and

religious belief about the origin of the world even to be taught including at private schools, not to speak of deriding and mocking it.

It is truly hard to believe that, in spite of its arbitrariness and lack of the slightest piece of evidence in favor of its bold claims – the theory of evolution not only pretends to be a scientific one but the only acceptable theory of the origin of life and of man and is widely accepted everywhere to such an extent that the only reasonable and philosophically tenable account of the origin of the world and of life, already well understood by Plato, is virtually banished from public schools under the weight of the mysterious and magic power of evolutionism.

In the following essay, I will absolutely refuse to bend my knees in front of this ideological god, and will dissect it by purely rational knives that will, I am afraid, leave nothing of this new divinity.

2 Several Concepts and Contents of “Evolution”

The evolutionary account of origins keeps shaping the understanding of man more profoundly than any other pseudo-scientific theory, even though excellent scientists begin to observe that 3 of the 4 dogmas of the pseudo-scientific theory of Darwinism (to which I shall add also a fifth one) have become untenable,¹ and even though, in its form of a materialist and atheist philosophical ideology, it is not only false but absurd, and the very content of the term “evolution” is profoundly confused:

- (1) The term “evolution” might designate any form of trans-species development of organic beings such that from existing ones new species are formed whose members assume

¹(See Bauer 2008).

new sets of characteristics. This idea, already suggested by Empedocles, was developed in Augustine's theory of the *rationes seminales*. *Limited* processes of such trans-species development can be subject of empirical confirmations or refutations, especially in genetics, inasmuch as we observe new breeds of animals or new species of plants which can be brought about by genetic engineering or cross-species breeding.

Huge differences exist, however, as to both the nature and the extent to which one alleges that trans-species development actually took place or is even possible, an area where the domain of "scientific phantasias" is almost boundless while the possibility of empirical verifications or falsifications is extremely limited. The most fundamental division in this regard is whether one accepts or rejects the idea that the human mind can evolve from animal forms of life.

- (2) Evolution as a trans-species development that supposedly involves an increase of genetic information and variation as well as essentially new genes is a very different concept of "limited evolution" in sense (1) and a hypothesis that seems not only not to possess any scientific evidence but to contradict scientific evidences of genetics. (I believed until February 2009 that the undoubted phenomenon of race formation (1) and hence trans-species- or trans-sub-species development is an empirically verifiable case of what I called "limited evolution." Professor Maciej Giertych, a dendrologist and member of the Polish Academy of Sciences, convinced me, however, that it is not correct to call such race formation "evolution," by pointing at different elements essential to the Darwinian and Neodarwinian concept of evolution which are missing here entirely and which would be entailed also in "limited evolution" in sense (2): such as new genetic information and greater variety of genes. Thus Giertych concludes that race

formation is a process in the opposite direction to evolution, which requires new genes”² and therefore believes, for purely scientific reasons, that also limited evolution in this second sense is a pure science-fiction.³

As philosopher, I can neither refute nor confirm this very plausible view that we are faced here with a de-volution rather than with an e-volution, but undoubtedly we can distinguish philosophically these two very different phenomena (1 and 2) and hence agree with Giertych that the proofs for race formation (1) in which certain traits of a species are selected and some features as well as the presence of the genes responsible for them is enhanced, while other genes and traits are eliminated do not prove the reality of limited evolution in sense (2): that is empirical instances of an increase and higher development of genetic information.

- (3) The theory of evolution also may concern the causes and principles which bring about the described changes from one species to another one. In this regard, the Darwinian and Neo-Darwinian concepts of evolution differ radically from other possible conceptions of the causes of trans-species developments. The Darwinian theory does not merely hold that evolution is an all-encompassing phenomenon and origin of *all* species, but it rests, inasmuch as it is a theory of causes, on a few vague ideas of very disparate nature: some empirical, others metaphysical. Most of these ideas will turn out to be logical consequences of the metaphysical background from which followers of Darwin such as Haeckel developed their theory as an atheistic alternative account of the origin of species after rejecting not only the religious but also the

²(See Giertych [2006](#)).

³(See Giertych [1994](#), [1999](#)); See also several communications on evolution and compulsion to teach evolution in schools on his homepage (Giertych [2014](#)).

philosophical (Platonic and Neo-Platonic) teachings on the (semi-)creation of nature by an intelligent God.⁴

3 Different Meanings of “Evolution” and Evolutionism as well as Different Degrees of Radicality of Theories of “Evolution” as “Species-Transformation”

Many authors have pointed out that the very notion of “evolution” is profoundly ambiguous and that neither for its empirical, nor for its purely naturalistic and metaphysical claims about all-inclusive “speciation” and its causes there is any evidence.⁵

“Evolution” as compound of the three mentioned elements of trans-species mutation, increase of genetic information (higher development) and of causal explanations can be taken in many senses. Prescinding here from the use of the term by the Swiss inventor of it, Albrecht von Haller (d. 1777) – where it meant the development of tiny humans (homunculi) contained in infinite number and fully formed in the sperms – I shall distinguish here

⁴On Plato’s semi-creationist account of the origin of the world (intelligent design and intelligent creation of the cosmos not from nothing but from a preexisting chaos) and philosophy of the soul see Plato, *Timaeus*, *Phaedo*, *Phaedrus*, and the masterwork of Reale (1993, 1997) that convinced also the Tübingen school of Plato scholars, who had regarded the *demiurge* (*father and creator of the world*) in the *Timaeus* as a myth, that on the contrary, the demiurge plays an essential role in Plato’s whole cosmology, anthropology, metaphysics, philosophy of nature, and philosophy of mind, stands in the center (together with the ideas and principles) of the “second navigation” and Platonic refutation of materialism and relativism, and is to be taken as a full reality without which the formation of the world through the eternal forms (ideas) remains inexplicable. (See also Seifert 2002c; Seifert and Reinach 2000), (See also Krämer 1982).

⁵(See Johnson 1991), (See also Lennox 2009).

only a few modern senses of “evolution” and “evolutionism”:

3.1 “Orthodox Darwinian” or better “Huxleyan” and “Haeckelian” evolution theory

This is a naturalistic and purely philosophical-metaphysical, materialist and atheist theory which attempts to explain both the transition from non-living being to life and biological evolution (as origin of all further organisms and living species from a first one-celled organism) in terms of matter. The theory intends to be an alternative to the philosophical⁶ and religious doctrines on divine creation, and implies a naturalistic and atheistic interpretation of the origin of life. As Phillip E. Johnson insists, Darwinian and Neo-Darwinian evolutionism must be interpreted along these lines, even though Darwin himself was not an atheist.⁷

What are the ideas and “principles” behind such an “ideological evolutionism”?

- The idea of chance,⁸ a vague concept of which Aristotle has shown that it has many quite different meanings and that a mindless “chance” as uncaused and unthinking cause of nature, besides being impossible, could not explain any order and finality of things.⁹

⁶Already Plato defended a semi-creationist account of the origin of species in his *Timaeus* and elsewhere. See on this also Reale (1993, 1997).

⁷(See Johnson 1991, 124ff., 210ff.). Darwin himself was not an atheist but Thomas Huxley’s and Ernst Haeckel’s influence gave the theory from the beginning atheistic implications. (See Stein 1980).

⁸(See Monod 1971).

⁹(See Aristotle 1983). Aristotle distinguishes five senses of “chance”, affirming that its sense (used by Darwinists) of wholly uncaused events is an absurdity.

- Some gross over-interpretation of facts regarding hereditary biological mutations as if they were keys to explaining the entire genesis of life in nature.
- Some extraordinarily primitive so-called “principles” such as that of “natural selection” and “survival of the fittest.” These “principles” extend trivial facts (such as that a stronger animal fighting with a weaker one for a mate will win or kill it) into a general theory of the evolution of living species that is in no way scientifically supported by these facts.

In this conception of evolution, four decisive elements for adequately accounting for the genesis of life are ignored:

- (i) The immense purposefulness in nature;
- (ii) The personal intelligence required in the Creator of nature.
- (iii) Any vital principle or animal soul irreducible to matter at the origin of life, and
- (iv) Any rational human soul.

Hans Jonas has pointed out that such a theory entails a huge ontological and causal shift of world-view: not the living but the dead is primary being; dead, i.e. life-less, being becomes the model and cause of living things and of all reality.¹⁰ Jonas shows brilliantly that much of modern thought on life stands under the verdict and “climate of a universal ontology of death.”¹¹ Now this “theory of evolution” is *not a scientific theory* but a “pseudo-scientific” and “bad metaphysical ideology.” It can never be proven nor be refuted by empirical methods but could, if it were true, only be proven by philosophical methods. And being false, it cannot pass the “test of reality” in the double sense that it does not satisfy the criteria proper for objective philosophical

¹⁰See a critique of this idea in Jonas (1982).

¹¹(Jonas 1982, p. 11).

knowledge and that also empirical facts contradict its scientific and philosophical claims.

3.2 Theist/Deist theory of seamless chain of evolution

According to this theory, “evolution” is a universal explanation of the origin of species in which an intelligent Creator-God is asserted, but which is still characterized by a number of elements held in common with the atheist ideology of evolution, notably:

the idea that an uninterrupted chain of immanent developments of matter, starting from the “Big Bang”, under certain physical conditions, led to life, which is not so new with respect to life-less matter that it could not have evolved from it.

Once life came about by some “chance and necessity” operative in non-living nature, the first living cell gave rise in an uninterrupted evolutionary cosmic process to all living organisms including man.¹² Implied in this is the thesis that between living and lifeless beings, and between human and subhuman organisms, there is no fundamental essential distinction which would preclude that a life-less material being, albeit by “divine evolutionary techniques,” could give rise to life or to fundamentally higher forms of life. Nor would there be any obstacle to that first living cell giving rise, in virtue of its own immanent causal powers, to all other forms of life. Neither the first arising of life nor that of the human person would presuppose any new creative act. This is Teilhard de Chardin’s view of evolution, within which he even goes to the extreme of suggesting that “le Christique” (Christ) is the highest product of evolution¹³

This second evolutionary theory, in spite of affirming God, strangely and contradictorily sticks stubbornly to those primit-

¹²(See Monod 1971).

¹³For a critique see (Hengstenberg 1963, 1965; Hildebrand 1967).

ive and mythological “principles” and “causes” (natural selection and survival of the fittest, etc.) which make no sense as universal causes of the origin of species in a divinely and intelligently planned “evolution” which *eo ipso* possesses a completely different intelligent and creative cause than such non-teleological causes as “survival of the fittest.”

Also this theory denies any soul that cannot be reduced to the sheer “forces of matter.” While it admits a living divine mind as cause of evolution, it is materialistic in excluding within the cosmos any soul or life-principle essentially irreducible to material causes and inexplicable through them. Hence it gives a strictly materialistic account of life.

Claiming that persons can “evolve” from animals, it gives a reductionist account of human personal life in denying any fundamental unbridgeable distinction between human persons and animals.

Consequently of course also the role of God as Creator of all life and especially of each individual human soul in a direct intervention is denied. God’s creative act is reduced to a “deistic” “steering the evolutionary process.” All earthly life can be reduced to matter and what was thought an immaterial human “mind”, is just an emerging property of the brain and no substantial entity of its own.

Being theistic or at least “deistic,” this second theory of evolution:

- (i) may admit finality in evolution;
- (ii) can assume an intelligent divine cause of all design in nature.

3.3 Theory of “limited evolution” that entails “missing links” and “creative newness” or “jumps”

Evolution theory in a third sense would regard the evolving of one species from another as a mere *partial* aspect or explanation of the origin of species. Limited evolution would not be a universal account of the origin of species. It would be initiated and at different moments “interrupted” by new acts of direct divine creation. Within this third theory of “evolution,” we find different forms:

- 1) The maximum a theory of *limited* evolution could allow is that all animals, from amoebas and insects to elephants, and even the human body, came about through evolutionary processes from a first one-celled organism, exempting from evolutionary explanations only the origin of life from life-less matter and of the human soul from animal life or even from parental gamete combination and generation. This theory would explain the origin of all species of plants and animals from a first living cell, not however explain (a) the origin of life itself nor (b) of human personhood and the human soul through evolution.
- 2) A second variety of this third theory would explain the origin of all species of plants from a first form of plant-life, and all species of animals from a first animal, not however explain the origin of life itself nor of human personhood and the human soul, and not even an evolution of animals from plants, but accept a creative intervention of God as explanation for the appearance of (a) vegetative life, (b) sensitive animal life, and (c) of human life (soul).
- 3) A third variant of the theory of *limited evolution* would further restrict the spheres within which limited evolutionary processes are assumed and see them only possible within a given general kind of plants or animals or within certain groups

and genera of animals, such that some species of bacteria would evolve into others, but never into elephants.¹⁴ In this least far-reaching and most distinct form, the theory of “limited evolution” would only allow for evolutionary processes within the most fundamental genera of plants or animals or within purely biological traits of humans evolved from animals, not assume, however, that oak trees and blue bonnets, or elephants and mosquitoes would have the same origin.

Thus, the theory of *limited evolution* reaches from affirming only minor trans-species transformations or small changes in sub-species (3c), analogous to the fruit of goal-directed human activity of breeding but with the distinctions from race formation pointed out by Giertych, up to asserting a complete speciation of all plants or of all animals from some first cell organism (3a).

This third theory of *limited evolution*, because it insists in all forms (a-c) on the direct creation of the human soul through God and does not explain the coming to be of persons by evolution, is at times regarded by theologians as legitimate modern reading of *Genesis*.

There is no absolutely cogent purely philosophical objection against such a partial evolution in its modest form (3c). Its occurrence is philosophically possible and, in its most modest degrees and varieties, perhaps partially empirically “proven” (not through mere breeding of new sub-species but through an increase of genetic variety and information in the chain of “higher developed mammals” or higher developed races of fish).¹⁵

In its radical form (3a), however, even the theory of limited evolution is not only a wild speculation or even a sheer myth of

¹⁴This is the position of one of the founders of modern genetics, Professor Jerome Lejeune.

¹⁵I added the qualifier “perhaps” because I am in no position to deny the thesis of Giertych that only “devolution” through race formation but no single case of even limited evolution is empirically demonstrated.

the sort Karl Popper tried to eradicate from the camps of science¹⁶ but – while not contradicting the essential unbridgeable differences between dead matter and life or between matter and spirit (soul), as the theories of evolution (1) and (2), it is still impossible that the third type of theory of evolution in its radical form (a) be true because it denies the essential differences between plant life and animal life.¹⁷

It appears likewise to be *extremely* unlikely – empirically as well as speculatively – that the *limited* evolution theory 3b be true, although this would not violate any philosophically given *essential necessity*,¹⁸ because 3b would not seek to explain the transition from life-less to living organisms and from plants to animals, or from animals to human beings (at least with regard to the human soul) as a process of evolution (which is indeed metaphysically impossible), but would here accept the need for some immediate divine creation. Nonetheless, there exists absolutely no proof and no plausibility whatsoever that all species of animals from amoeba to elephant developed out of each other by some evolution, while there seems to exist – at least from a *purely philosophical point of view* – a plausible possibility that, in the sense of Augustine’s *rationes seminales*, some limited evolutionary processes and trans-species developments (3c), for example from wolves to certain kinds of dogs, took place, and it is certain that breeding practices can lead to new dog-races, whose characteristics are passed on to the next generation.

3.4 What does “evolutionism” mean?

“Evolutionism” is a term which depends first of all on what we mean by “evolution.”

¹⁶(Cf. Smith 1984).

¹⁷(Cf. Conrad-Martius 1963), (Cf. Seifert 1973, 1997).

¹⁸(See Reinach 1969), (See also Hildebrand 1960, ch. 4), (Seifert 2009).

1. Recall the first meaning of “evolution” – the fictional object of a materialist and atheist ideology and metaphysics, according to which matter and atoms, the explosion of the “Big Bang” and some laws that would have governed the origin and further development of living species (such as undefined “ecological factors,” sexual and kin selection, linked to genetic drift, mutation, genetic recombination, gene flow, natural selection and survival of the fittest, to which Neo-Darwinians add the Mendelian theory of heredity) would have led on their own and without any divine design or creation, at some point to the beginning of life.

Matter and the mentioned principles would have existed without intelligent design and cause, and without divine creation, and would have given rise to all species of plants, animals, and humans. This evolutionism is an inherently atheistic ideology standing in absolute opposition to creation: either you are an evolutionist in this atheist and materialist sense or a creationist. And such an ideological materialist and atheist evolutionism is not only impossibly true but a truly stupid, not to say idiotic thesis: that mindless and unformed matter on its own by some explosion brings forth the Darwinian laws, and through them the entire order, beauty and finality of the cosmos – whereas one or two eastwards directed bones laid in a tomb constitute in the eyes of archeologists evidence of an intelligent mind – this is madder than to believe that Darwin’s works are haphazard effects of rains and winds in his backyard.

2. Theist “Evolutionism” that holds that the universal evolutionary process proceeding from the Big Bang derives from a divine Creator who planned matter to be capable of bringing forth life, and the first totipotent cells to bring forth all the magnificent species of life, is a very different theory. Evolution would accordingly be interpreted as “the divine means to bring forth the first living cell of the world from matter and all other species from it.” Also this position, though very different from the first,

and theist or “deist” (or crypto-atheist by being pantheistic), deserves the pejorative title “evolutionism” and is untenable in virtue of forgetting the unbridgeable differences between spheres and orders of being that can never “evolve” from one another, not even through the divine intervention: living beings cannot evolve from dead, spirit cannot evolve from matter, personal being from impersonal being.

3. The theory of limited evolution in its middle form (3b) would accept divine creation of the world from nothing and creation of species but as it were place the need for creation only at four points: (1) at the beginning (perhaps also holding permanent divine support necessary for the continued existence of the world),¹⁹ (2) at the creation of the first vegetative life; (3) at the beginning of animal sensitive life; and (4) at the origin of *each* human soul (and of course of each angel). This position cannot be called unqualifiedly “evolutionism.” It may be the position Pope Benedict XVI (Cardinal Ratzinger) and Pope Pius XII (in spite of the latter’s *extreme cautions and reservations* in relation to the theory of evolution expressed in *Humani Genensis*) held. While I do not share even this “limited evolutionist view” (3b), finding it extremely improbable (in contrast to 3c) and more an expression of flourishing imagination than of science, it still is a form of basic creationism, seeing evolution itself as a divine creature, and limiting evolution to a sphere where we might accept that an omnipotent God *could* have endowed

¹⁹That the finitude of the past time and age of the world can be proven on purely philosophical grounds, following the kalam argument and Bonaventurian insight and proofs of the absolute impossibility of a beginningless finite and structurally temporal universe I have tried to show in a new interpretation of the first via of Thomas Aquinas and a metaphysics of time. On this basis as well as on an analysis of the contingent existent in the world and the inexplicability of the temporal and contingent being of the world in terms of the world itself the divine creation from nothing can be philosophically proven. (See Seifert 2010, 2013, ch. 2), (See also Seifert 1989b, ch. 10).

the first vegetative life-forms and one-celled animals with such a power of developing, over so many years, into giraffes, lions, and a variety of other species.

I would nonetheless reject this view on account of its many philosophical, gestalt-related and empirical implausibilities (missing links, etc.) and – if linked to the Darwinian and Neodarwinian “principles” – its character of a wholly superfluous and almost absurd hypothesis within creationism.

4. In contrast, the view (3c) that not only *some* formation of new races and sub-species, as they can result from breeding, might also be the effect of some natural events such as mutations or other consequences of hereditary laws, but also limited “evolution” towards richer genetic information, has some plausibility, provided one drops the non-sense of the Darwinian “causes.” This position certainly is not to be called “evolutionism” or an ideology, but advances a mixture of proven facts and audacious scientific hypotheses. Within this theory (3c) we could still find many sub-divisions as to how limited or wide such evolving of new species from others ones is thought to be.²⁰ It seems quite unreasonable to assume as origin of all species an “evolution” of entirely new forms and gestalt-principles or of entirely new instincts and techniques, as we find them in fish, bacteria, or mammoths. John C. Lennox has shown how even bacteria that are morphologically speaking extremely similar use radically different techniques of swimming and motion such that an evolution between such mathematically and technically speaking completely different systems is simply impossible.²¹

²⁰(See Seifert [1997](#)).

²¹(See Lennox [2009](#)).

4 Faults of evolutionism as causal theory and alternatives

4.1 The primitivity and untenability of Darwinian “causal explanations”

“Limited evolution” through creation (3c) could be an actual fact, however, only under the important condition that it would not be an effect of the primitive Darwinian and Neo-Darwinian “principles” that are philosophically speaking utterly incapable of explaining on their own the origin of *any* new species with its amazing order of forms and instincts. To assume such mindless phenomena as sufficient cause of new species is plainly silly. Any proper cosmology, and this is a decisive point, has to separate entirely the idea of a trans-species development, by which given species might be transformed into new species, from the idea that those “laws” or “principles” through which Darwin sought to explain evolution are *sufficient* explanations of the origin of new species. (Holding this would be like saying: if you put humans in a humid cave with nothing but flies to eat, they will adapt to the surroundings, spin spider webs, catch and eat flies or start to fly themselves, and only the fittest humans who would survive such a traumatic change of life-style, will be responsible for, and transformed into, these new spider-men or fly-men).

The reflection on the causal deficiencies of Darwinian evolutionism also brings to light the close connection not only of its causal aspect but also of its assumption of universal evolution of species with materialism and atheism. Once you understand that only a personal God can be the Creator of life and of persons, once you recognize that solely divine creation of an omnipotent and infinitely intelligent being can bring forth any and all beings, why would God not have created bacteria, mice and elephants, rather than making elephants the grandchildren of bacteria, and

on top of that, why in the world would He have used such primitive laws as “survival of the fittest,” “natural selection” and “adaptation”, that explain really no meaningful form-principles at all, and why would He have taken endless time to let such mindless causes produce the world, and watch and accept innumerable mishaps in this process or have created bees that are necessary for the propagation of certain plant species millions of years after the plants that could not live without them?

Universal trans-species development, coupled with the Darwinian *causal theory of evolution*, would be like Shakespeare being perfectly able to write *King Lear* but instead choosing to let a monkey type on his typewriter until – after billions of years – one line of *King Lear* would appear in an immense bunch of senseless letters, and – after trillions times trillions of years – *King Lear* would appear in infinite series of nonsense such that this masterwork, which only an infinitely patient human being could identify among the chaos of trillions of letters and senseless scripts typed by the ape, could enrich the world.

4.2 Was Augustine an intelligent evolutionist or something better?

The need to separate speciation from the Darwinian theory of its causes and the teaching on the “rationes seminales” as possible beginning of an adequate and anti-Darwinian theory on the origin of species to supersede the neo-Darwinist one and to correspond much better to the progress of modern genetics

Augustine speaks, employing many different terms, in at least seven different places and three works, chiefly in his *Genesis ad litteram*, of the so-called “*rationes seminales*,”²² one of whose meanings seems to imply an origin of new species from existing

²²Augustine quite expressly excludes a total fluidity of species. See (Augustinus 2004, Gn. Ad litt. 9, 17.).

ones. His teaching, however, differs radically from the evolutionist Neodarwinian account in the following ways:

- (1) It is clear that Augustine rejects the first two types of theory of evolution distinguished above. Besides rejecting the first (atheistic) one, he assumes not only human souls directly created by God but, as Aristotle,²³ also animal souls which possess some power to “cause more than being caused” and principles of plant life irreducible to inanimate matter.²⁴
- (2) He seems to say, however, that God has inserted into matter from the beginning of creation “germinating ideas” tending towards different forms that can possibly inform matter. This seems to leave open whether there be some development of one species from another. This idea in Augustine is completely separate from the assumption of ridiculously primitive causes such as “natural selection” or “survival of the fittest,” replacing these principles of evolution with an idea similar to that of the *entelechy* in Aristotle, that is, an inner active principle that contains in potency an elaborate form and dynamically unfolding teleological plan which could only originate in a supreme intellect.²⁵ Thus not mindless “natural selection” but an ingenious creative idea of God “*inserted into matter*” would be the cause of trans-species-transformations as conceived by Augustine (who thought, in radical contrast to Darwin, that this whole process occurred in a single day/moment of creation, which the Bible symbolically expands into six days).

The concept of “seminal reasons” bears some likeness to the profound philosophy of nature of Hedwig Conrad-Martius.²⁶ It seems also an idea much more akin to modern genetics. Thus

²³(See Aristotle 1976); (see references in Seifert 1997).

²⁴(See e.g. Augustinus 2004, De Civitate Dei, Book V.).

²⁵(See also Spaemann 2005).

²⁶(See e.g. Conrad-Martius 1963).

Augustine provides potentially a theory of speciation as fruit of supremely intelligent divine plans inserted into matter.²⁷ Life and its teleology here are the work of a masterful ingenious mind instead of being a product of chance and necessity or of principles without any real explanatory powers such as “natural selection” or “survival of the fittest”. Within the third sense of the theory of evolutionary speciation this seems to be the only acceptable form of it becoming reconcilable with the insight that matter cannot be the first cause of being or produce on its own meaningful wholes of an organic being. Thus the rejection of evolutionism in the first sense also requires a radical rethinking of what might be an adequate account of the causes of evolutionary processes if these exist but cannot be the work of material explosions or other blind forces lacking all intelligence, but must be the work of supreme reason. Augustine’s teaching on the *rationes seminales insertae materiae* would give a clue for such a complete rethinking of the causes of “speciation,” freeing them from the mindless way in which an atheistic and pseudo-scientific account of life had to interpret them.

- (3) Augustine does *not believe* that *all* living things could spring from any matter (which would involve, in modern language, a total fluidity of genomes) but holds a restricted possibility of species-transformation determined in its limits by some nature.²⁸
- (4) Augustine not only presupposes a supreme intellect as cause of these active plans and ideas hidden in matter but he also distinguishes life as being essentially distinct from the non-living, wherefore in living beings the *rationes seminales* also involve some soul that is irreducible to a plan operative in purely chemical and physical forces.

²⁷(See Seifert 1988).

²⁸(Augustinus 2004, Gn. Ad litt. 9, 17.).

- (5) Often Augustine sounds as if he meant with these *rationes seminales* first of all not principles *immanent in matter* but divine creative ideas which exist in God long before the things exist that correspond to them.

This Augustinian teaching is not exclusively his and is by no means absent from Plato's (semi-)creationist metaphysics of the *demiurge*, the “maker and father of the universe”.²⁹

5 Science and the threat to the image of man – a philosophical critique of the causal aspects of the theory of evolution in its first two senses as an example of dóxa and pseudo-science

Many arguments can be advanced in favor of rejecting evolution in the sense of Darwinism.

5.1 The complete absurdity of the theory (1) that chance and “natural selection” without intelligent Creator suffice to explain the origin of species

That mere chance led out of a world governed by the laws of chemistry and physics to the generation of life seems too absurd to be treated seriously. But we will nonetheless have to do so because it is taken seriously by many scientists. Jay Roth expresses the inexplicability of *bios-life* through dead matter by principles of chance (i.e., without intelligent design) very well:

²⁹(Platon 2001, Timaios), (Reale 1997).

“If one considers even a single protein, [...] this displays such an immense complexity that it boggles the mind. [...] I have carefully studied molecular, biological, and chemical ideas of the origin of life [...]. Never have I found any explanation that was satisfactory [...]. The basic problem is with the original template (be it DNA or RNA) that would have been necessary to initiate the first living system that could then undergo biological evolution. Even reduced to the barest essentials, this template must have been very complex indeed. For this template [...] alone, it appears it is reasonable at present to suggest the possibility of a creator. [...] [T]he odds of such a template forming by chance are 1 in about 10^{300} or, possibly, a much larger number [...].”³⁰

Even the success in such a chance production of a protein or template, however, would not yet explain the phenomenon of life. Similar ideas are expressed by Henry Margenau: The British Astronomer Fred Hoyle is widely noted for the statement that believing the first cell originated by chance is like believing a tornado ripping through a junk yard full of airplane parts could produce a Boeing 747.³¹

The inexplicability not only of the inner finality of living organisms but also of their enormously complex relationships to their surroundings was expressed in 1921 by the discoverer of the biological notion of *Umwelt* (surroundings and habitat), Johannes von Uexküll,³² with respect to the immense improbability that an amoeba could not only come to exist by chance, but find a surrounding in which to live and then to propagate itself regu-

³⁰(Roth 1992, p. 199).

³¹(Margenau 1992, p. 63).

³²(Uexküll 1921, 19ff.).

larly. He compares this with the following idea that he develops at much greater detail: by accident a car would be formed out of different parts of metal melting and flowing together on their own from the different stones in which they had been; they form by accident all auto parts; these join by sheer accident to form a whole car; rubber forms by accident from the raw-materials found in a rubber-tree in Malaysia or Thailand, where the *Havea* trees are tapped by accident by a sharp hook shaped knife that shaves in a random fashion a thin layer of fresh bark from a tree so as to expose the latex vesicles; by another accident the latex runs down and is collected in a cup that stands in the right place by chance and collects half a cup of latex per day from each tree; by another accident a dilute acid such as formic acid is added and the coagulated rubber is then rolled to remove excess water. After all these extraordinary chance events the rubber enters an ocean and is swimming to the other side of the earth and forms, by the greatest accident of the rubber pieces tires which then, by another chance are filled with air and put around metal parts; a key forms and falls – by accident – in the accidentally formed and fitting key-hole, gas flows – by accident – into the tank, the key turns by accident, the motor starts in consequence of all these and other accidents and the car moves. The wheel turns by some stones that get loosened on a hill and the clutch is pressed down by chance; by accident there is a street on which the car can drive. And when this car crashes and breaks, from its parts by accident little cars emerge from the pieces of the preceding one and continue to drive. And this would go on all the time and quite regularly, billions of times, and not just 1 time per 10^{300} – all by chance. He adds that to assume such an origin of cars would be incomparably more easily correct than assuming a transition from lifeless matter to the simplest organism, which is far more complicated than any car, let alone the assumption of the production, by chance, of the entire cosmos of organisms

on earth. He also remarks very well that if the most intelligent scientists, studying all laws of nature and creating artificially the conditions under which they believe life to emerge from lifeless materials, were ever to succeed in their efforts, they would not prove that chance can produce life, but only that the highest terrestrial intelligence, after years of study, was able to produce one simple form of life. A deeper refutation of the evolutionism that explains the genesis of life from dead matter would have to enter more profoundly into the intelligible essence of life and show that even if the most mind-boggling complex material structures could be explained by evolution, that would in no way explain life that is irreducible to them.³³

How to explain by means of this theory based merely on the mind-less principles of chance, natural selection, survival of the fittest, for example, that the mere chance events that allegedly led to the unbelievable “miracle” of suddenly producing a completely functioning human male – after innumerable mishaps which Darwin himself presupposed as consequence of his theory but whose countless paleontological traces history has (being unkindly disposed towards Darwinists) annihilated – led *a second time and at the same time* to an equally improbable chance production of a human female, without which the freshly chance-generated male would not have been of any use for the preservation of the “species” man? If scientists and mathematicians such as Jay Roth have argued that a chance-formation of one single protein mathematically speaking would have merely a chance of 1 in 10^{300} of being formed, what chance does the chance-production of a cell, an organ, or a whole Adam have? A number no man can write down or even fathom! But what will then be the chance of the simultaneous chance-production of a human being so dif-

³³This distinction is strikingly made in Ezechiel 37:1 ff. See on the irreducibility of life also Seifert (1997).

ferent from Adam and marvelously beautiful and meaningfully corresponding to him as Eve? How does the theory of evolution explain that both man and woman, if they sprang from a chain of chance events, fit so well together and must have arisen at the same time so as to propagate and start a human race? The mathematical probability of this is such that only a madman can even for a second seriously believe that such a thing would happen. Already these mere material-mathematical considerations lead to absurdities for an atheist theory of evolution which make it almost incomprehensible that generations of intelligent persons could believe it. But these are not the most decisive objections.

Someone might object that our considerations *are not* even applicable to the first type of theory of evolution (1). Since nature is dominated by laws, these laws can lead to the production of new species according to non-random principles. But this objection to our argument keeps forgetting that even if we are not dealing with random-chance-evolution (1) but with a world dominated by the laws of nature with its tremendously organized laws and rules, these rules themselves, since they are contingent (non-necessary), *are not* an ultimate explanation but need one. Hence, far from *explaining how chance productions* following mere principles of natural selection and survival of the fittest can give rise to living species, they themselves require a sufficient reason that explains why *they* exist at all (as principles of order instead of total chaos). They cannot be explained by the invocation of “chance.” But if their origin lies in an intelligent maker of nature, we do not deal any more with an atheist evolution, but postulate a gradual origin of species through an intelligently designed plan operating according to a huge set of “laws dominating nature and even chaos as well as species and processes of evolution” that are contingent and meaningful and therefore must originate in an intelligent maker of the universe.

5.2 The irreducibility of life to matter

One of the most important philosophical objections to the theory of evolution in senses 1 and 2 lies in the insights into the absolute irreducibility of life to dead matter. This applies even to mere vegetative life, with its fundamental traits of self-generation through nutrition, propagation, and regeneration, as well as with its stunning qualities of self-motion and its entelechial, teleologically self-unfolding structures which cannot be explained without purposiveness in nature. For all these and many other reasons, *bios-life* is entirely irreducible to life-less matter.

Let us turn only briefly to the arguments supporting the claim of the utter irreducibility of life to the life-less: Scientists observed – following the lead of Erwin Schrödinger – that organic substances are partly governed by principles that are antithetically opposed to those of inorganic matter.³⁴ Whereas classical forms of materialism and materialist monistic identity theories had attempted to show that life and mind were nothing essentially new with respect to closed and fully determined systems of material elements, governed by the laws of physics and chemistry, the life-sciences increasingly observed even non-rational living organisms to be systems of physical entities which are more complex and obey other laws than inanimate objects.³⁵

While Schrödinger's book, *What Is Life?*, is profoundly confused philosophically speaking and advocates an experienced all-identity of a pantheistically conceived single "consciousness," it shows the newness of life as manifesting itself through laws and activities contrary to those which govern inanimate matter, such as "negative entropy" (called *negentropy* by Bertalanffy).³⁶ Where-

³⁴(Cf. Schrödinger 1945, ch. vi-vii).

³⁵And Bertalanffy speaks of "negentropy". See on this also Seifert (1997, ch. 1-2).

³⁶(See Bertalanffy 1969).

as life-less material things underlie the thermodynamic laws of the inanimate cosmos and obey principles of entropy which involve a growing transition to lower forms of energy and less ordered material wholes, the living organisms develop in accordance with principles of “negative entropy,” a positive phenomenon of living organisms developing toward more ordered and organized material and energetic systems. Schrödinger says that the organism “drinks order from its surroundings” and the nourishing substances in it, and resists the tendency to reach a static state of thermodynamic equilibrium (only death subjects organisms to the second law of thermodynamics).³⁷

Life shows a transition to “order from order;”³⁸ living organisms possess in themselves an order which they pass on through propagation, and which they do not receive from without, in the manner in which inorganic matter is formed by an artisan or an architect into a given shape. Inorganic matter produces order only from without by some external cause such as a beaver, an ant, or a human artisan or architect.³⁹ Therefore, a material universe governed by the laws of thermodynamics and entropy cannot explain life.⁴⁰

The living organism creates order from disorder, whereas the inorganic physical systems undergo a movement from order to chaos.

Hedwig Conrad-Martius compares the living organism to the miracle in which an artist would have put his creative idea into materials that would paint on their own the paintings or construct the cities intended by him - from a plan that resides in them themselves.

³⁷(See Schrödinger 1945, ch. 6, 120ff, esp. 128ff; also 134).

³⁸(See Schrödinger 1945, p. 139).

³⁹(See Schrödinger 1945, ch. 6, 57, 127; 6, 65, 138f.).

⁴⁰Ulrich J. Becker states this well. (See Margenau and Varghese 1992, p. 29).

To explain the astonishing phenomena of life through internal developments in life-less nature constitutes a reductionism that fails to do justice to this *urphenomenon: life*. Not only primitive, also the most sophisticated forms of reductionism must be attacked. In spite of their fantastic advances, modern scientific theories of life and consciousness in terms of material evolution are fundamentally just as reductionistic as older ones. Only the intelligible natures of things themselves dictate whether or not more sophisticated materialist explanations of life are reductionistic. As life requires an entelechy or *soul*,⁴¹ even the most sophisticated materialist models of explaining life, using non-linear equations, chaos-theory, quantum physics, etc., remain basically just as reductionist and utterly inadequate as old reductionisms which sought to reduce life and mind to the level of pure machines and to other phenomena known to physics at that time. Life, especially mental life, just cannot be thus reduced. If unpredictable laws or events in the material world are equally unable to explain life (or even an intelligent chess-game) as predictable ones, a theory of life in terms of them remains reductionist. De la Mettrie's theory of mind might have been much more primitively reductionist than these modern theories, but any, even the most subtle interpretation of minds in terms of more complex material systems remains utterly reductionist.

A philosophy that is conscious of its fundamental method,⁴² considering the essential marks of living beings, recognizes that the essence of life is irreducible to physical systems of *any* sort. *If* a reductionistic explanation of organisms in terms of chaotic or non-chaotic physical systems were successful in accounting for the phenomena we observe in organisms, all such a theory could possibly prove is that what appeared to be living substances are

⁴¹(Seifert 1997).

⁴²(See Hildebrand 1960; Seifert 1997, 2009).

nothing but machines and do not live at all. This “reductionism of fact” does not justify “a reductionism of essence.” Such a reductionism, which declares what *appears to live* in some mechanistic terms, presupposes the very same intuition into the essence of life as a phenomenon which the defender of this type of reductionism intends to deny.

5.3 The irreducibility of the human soul to matter as death-blow of the atheist and theist form of radical evolutionism (1 and 2)

Starting from the immediate inner experience of our own conscious experience, and proceeding to a philosophical discovery of the irreducible character of life, we are epistemologically speaking in a far better position from which to reject any reductionist interpretation of life than when we are dealing with plant or animal life. Descartes could suggest as a rational, albeit most implausible, hypothesis an interpretation of animals as *automata* because their being more than divinely designed marionettes drawn by invisible strings of nature or than products of pre-biological evolution is not immediately and indubitably accessible to our knowledge. However contrived or even absurd such a Cartesian theory of animals as machines is, it is not absolutely inconceivable what we take to be animal life would amount to nothing but to a set of operations produced by an omnipotent magician in inanimate matter leading to an illusion of life.

The untenability of any reduction of human consciousness to an epiphenomenon of brain events or to these events themselves (in the mind/brain identity theory), however, is absolute and demonstrable in many ways.

The material substance itself must be spatially extended, composed, divisible, etc. Now if we consider the essential features of psychic being – being lived and consciously “performed” *from*

within, the intentionality (conscious and meaningful subject-object-relation) of most experiences, the necessity with which conscious life requires the existence of a conscious and indivisible unique subject *whose* conscious life it is, etc. – they make it impossible for a material substance in its unity-in-multiplicity and its composition to be the substance which lies at the basis of the conscious acts of the subject.⁴³ Leibniz has pointed out that a composite material thing could never be the subject of conscious life:

“17. [...] supposing there were a machine, so constructed as to think, feel, and have perception, it might be conceived as increased in size, while keeping the same proportions, so that one might go into it as into a mill. That being so, we should, on examining its interior, find only parts which work one upon another, and never anything by which to explain a perception. Thus it is in a simple substance, and not in a compound or in a machine, that perception must be sought for [...].”⁴⁴

The positive simplicity and incomposite individuality of the subject that is presupposed for all experience and even for appearing, cannot possibly be an essentially non-simple substance with parts in space.

It is immediately evident upon careful reflection on the intelligible essence of, on the one hand, human “psychic experiences” and, on the other hand, materially composed substances, that the latter can never be the subject of the former. This knowledge is certain, not a mere hypothesis. For instance, the

⁴³(See Seifert 1997, ch. 4).

⁴⁴(Leibniz 1958, *Monadologie*, nr. 17); See also Theod. Pref. E. 474; G. vi. 37.

aesthetic experience of listening to a work of music or of contemplating a painting, clearly call for one and the same identical and indivisible subject, present in the countless parts and temporal phases of this experience, in order to be possible at all. Whereas the unity of the aesthetic form itself evidently requires an extended material bearer because it could not exist without spatially extended forms, colors, etc. – it is no less evident that the *experience* of this form and beautiful painting is absolutely incompatible with any subject which would be less than strictly indivisible and simple and which thus possesses characteristics contradictorily opposed to the those of a material thing. A brain with its millions times millions of distinct parts and functions can bear many accidents such as patterns and forms, and possess electric or magnetic properties, constitute functional wholes, etc., but can never have conscious experiences. These would lose their being and unity and indeed would be totally destroyed if there were not one and the same identical and indivisible self as their subject, as the non-composed and simple “I” of “I see,” “I understand,” “I experience form.”

This proof can be represented in the following form:

First premise: conscious human experiences require an indivisible, simple, non-composite substance as subject.

Second premise: No material substance is an indivisibly simple, non-composite substance.

Conclusion: Thus no material substance is the substance required by conscious experiences as the subject of conscious human life.

Let us also mention the proof of the soul through freedom. A promise or any other free act is necessarily impossible, nay absurd, if such an act is identical with, or determined by, material or organic processes, or if it is a mere causal product of

evolutionary developments. Moreover, every person presupposes some free acts, such as searching for truth, asserting, or promising, even when she or he resolves to investigate or to defend materialism. Jonas (1981) has demonstrated the absurdity of the mutual promise of the famous materialist Helmholtz and his friends to promote materialism. They pledged to promote a theory of the power of matter over mind but presupposed, in the very assumption that their promise could and would be kept, an original power of the mind over matter and its causal independence from chemo-electrical processes in the brain. A promise or any other free act would be absurd if such an act was identical with, or determined by, material or organic processes or a mere product of evolutionary developments. Moreover, every man presupposes some free acts such as searching for truth, asserting, promising, etc., even when he resolves to investigate or to defend materialism. Hence he contradicts his own theory in every moment in which he – inevitably – presupposes his freedom. Yet we are dealing here not with a mere inevitable subjective presupposition à la Kant but with an evident datum of the essence of freedom and of its real existence in us. When we act in a way which implies the free initiating of acts which do not proceed from another cause but from the self itself, these acts would not exist if we had not willed them to be and they involve the fact that we are master over their being or non-being. And this datum of freedom refutes materialism, according to which free acts could not exist.⁴⁵ Thus the life of free acts and of their subject is irreducible to the brain and to any conceivable material system.

Also cognition contradicts its being an epiphenomenon of the brain or its functions. Just consider the cognitive transcend-

⁴⁵Of course, also philosophies which recognize the existence of a soul can embrace determinism but materialistic philosophies must inevitably do so.

ence in which the being or essence of something discloses itself to our mind as it is in itself. To explain cognitive acts in terms of a psycho-physical identity or radical causal dependence – as this is attempted by the evolutionistic “bio-psycho-social model” popular with many scientists today – involves a necessary contradiction to their nature because the content of our knowledge would not depend on the nature of its object but be made different by different brain events quite independent of the nature of the objects. Thus knowledge could not exist, but as knowledge, for example of these facts, evidently exists, also spirit must exist without which it would be impossible. The existence of the mind and of the human soul as subject of consciousness, thusly proven, constitutes an absolute refutation of any evolutionism that believes that matter can produce the life of the human spirit, and thus refutes the first two theories of evolution.

5.4 The weakness of arguments in favor of evolution from the progress of scientific knowledge on its assumption

One might object that many scientific discoveries have been made based on Darwin’s theory. Omitting the fact that many molecular and paleontological facts have precisely been disregarded in the dogmatically held theory of evolution,⁴⁶ we reply:

A) Both philosophical discoveries and philosophical errors can inspire empirical scientific findings. The truth of Einstein’s philosophical conceptions, in the light of which he interpreted his influential scientific discoveries and theories, is in no way guaranteed by the practical success or universal acceptance of his relativity theory. Darwin’s materialist reductionism that believed in the possibility life coming from non-living chemical substances and

⁴⁶See the instances of this cited in Johnson (1991, 45ff, 125ff).

human beings from animals, and can be refuted by philosophical arguments,⁴⁷ led to important discoveries. His materialist theory of evolution, however, cannot be justified by reference to its fruitfulness for empirical research.⁴⁸

Even Hitler's grotesque and vicious racism and the criminal medical experiments performed on Jewish women in Ravensbrück have led to discoveries in medicine regarding biological facts and given rise to treatments of infectious diseases. But this success of his racist beliefs for science was not the slightest proof of the truth of his vicious errors, just as little as medical discoveries that may come from observing tortured prisoners or from embryo-consuming stem cell research will prove such acts right.

Besides, philosophical materialism also led to serious prejudices that barred the progress of experimental science. Especially in the area of empirical brain-mind research countless empirical evidences were ignored or brushed aside by materialists and determinists, whereas scientists who overcame their errors rediscovered such ignored evidences.⁴⁹

The philosophical recognition of freedom, and thus of an extrinsic causal influence on the brain, led to important experiments in brain research, the design and correct interpretation of which would have been hardly thinkable without the proper philosophical conception of freedom.⁵⁰

False philosophical ideas frequently and logically lead to serious impediments of empirical discoveries. As one of the greatest human embryologists of our century, Erich Blechschmidt of the University of Göttingen, demonstrated, Darwin's, Spencer's and Haeckel's evolutionism and their ideas about individual morphogenesis and ontogenesis repeating within the human embryonic

⁴⁷(See Seifert 1973, 1989a, 1997).

⁴⁸(Crosby 1976; Hengstenberg 1963), (See likewise Seifert 1973, 71ff, 157ff).

⁴⁹(See Popper and Eccles 1977; Seifert 1989a).

⁵⁰(See Popper and Eccles 1977), (Seifert 1989a, ch. 6).

development phylogenesis led to prejudices and false assumptions regarding human embryology and other empirical matters.⁵¹

5.5 The weakness of the empirical arguments for evolutionism and the extreme improbability of the theory of evolution even in the third and philosophically and theologically tolerable sense (3b)

In order to deal with the theory of *limited* evolution (3c), we have first to remember that the whole *raison d'être* of the theory of evolution was designed to substitute the doctrine of the Creation of the World through a divine Spirit. Once we hold that there is such a divine Creator-God or a semi-creating Demiurge-God who creates order from chaos, as Plato held, it becomes so to speak entirely pointless and useless to accept a general evolution of living species. Evolution along the lines of Darwinism makes serious sense only if there is no Creator-God. If God created nature, why would he use such a dumb and primitive technique as evolution in Darwin's sense (survival of the fittest, etc.) with countless trials and mishaps and chance events to realize his creative idea? That would be like a Michelangelo who has hands and a mind to build the cupola of Saint Peter's but instead would sit around for centuries to wait whether storms, rains, and sand might produce his cupola by chance, or who would use such non-intelligent causes as the destruction of all imperfect constructions of cupolas made by him to produce the one he intends to create.

Rejecting Darwinian conceptions of evolution, we could still accept limited trans-species-developments. A "divinely organ-

⁵¹Blebschmidt proved, for example, that the phenomena which were taken from Haeckel until today to be human gills, are in reality *Beugefalten* (folds) and were mistakenly thought to be gills for ideological reasons. (Cf. Blebschmidt 1976).

ized limited evolution” should no longer be called “evolution” but would refer to an incredibly well-ordered finalistic plan executed through a wondrous capacity of living species not only to engender themselves and their kind in growth and propagation, but also to undergo mutations and to engender new species. Besides assuming, in the cause of such a “speciation,” a plan and idea, as well as the intelligence to understand it, an adequate view of species-transformation would also require recognition of the free action necessary to execute and realize contingent organisms corresponding to such plans.

Also partial evolution in the sense 3b, if universalized, is a very questionable theory given the countless “missing links” between different species and the well-nigh complete absence in the fossils of traces of the “innumerable transitional forms” of life which Darwin himself postulated as consequence and necessary implication of a reality that would correspond to his theory and would also be required by a seamless “creationist” evolution in sense 3a, but also in the sense of 3b or of 3c.⁵² The total absence of such a chain from paleontological evidences is an empirical refutation of the theory not only in the first and second but also in the third sense, if this evolution is postulated as origin of *all* species of plants or animals. For such a theory to be known or even meaningfully presumed to be true would demand fossils of countless missing links (besides of billions of mishaps unfit for survival as a strict Darwinian or Neo-Darwinian theory would have to postulate, in contradistinction to a creationist position, which in its radical forms would entail a seamless series of species but no series of innumerable monsters and mishaps). The only reasonable assumption for the virtual absence of such monsters and mishaps is that a true explanation of the origin of species *does not lie* in a “complete evolution” of all plant and animal

⁵²(Johnson 1991, 45ff).

organisms.⁵³

At the basis of Darwinism we find a mere morphological consideration of nature which does not suffice at all to postulate evolution. For even assuming that we would possess a complete paleontological track-record of all the transitional links between the species, a theory of “*a complete chain of evolution*” loses all plausibility as soon as the architectonic and technological aspects of nature are being considered. New joint US studies of mathematicians and biologists investigated, for example, bacteria whose external shape is extremely close to each other such that a superficial look might make us believe that evolution is an excellent explanation of the origin of such neighboring species of bacteria from another. But in these morphologically almost identical bacteria we discover tremendously ingenious and *totally different* systems and technical devices of motion or swimming such that their underlying ideas can certainly not be explained by the principles of evolution. The theory of evolution (even if it admits that soul cannot come from matter, that persons cannot evolve from non-persons, and life not from the non-living) is fraught with countless implausibilities such that we can say, in the imagery of the fairy tale of the “Emperor without clothes,” that the Emperor of evolutionism is naked. In view of such insurmountable difficulties of even a theory of *limited* evolution, we should simply reject a universal theory of evolution, replacing it by a consistent metaphysical and theological doctrine of creation which from beginning to end does infinitely better justice to the marvels of nature and of the human person and avoids all unconvincing and unreasonable compromises with a blunt and philosophically speaking miserable construct of evolutionism and the unsupported claims of a creationist evolutionism. Moreover,

⁵³This objection against evolutionism was also raised by Karl Rahner and Overbeck long before Phillip E. Johnson’s brilliant attack.

creationism can be strictly demonstrated in its truth.

Also such phenomena as the “geographic distribution of species” can in no way prove the theory of evolution.⁵⁴ For obviously not only such principles as “adaptation to the surroundings” but creative intelligent plans could explain much better than “evolution” such a geographic distribution of living species. Moreover, if this geographic distribution were to be used as a proof that on different continents independent processes of evolution have led to different species, how to explain that we find some species all-over the world?

6 Conclusion

While not entertaining the vain hope that my readership be convinced of all my conclusions, I do hope that I convinced the reader of the following points:

The theory of evolution that appears to be science and well-proven is in reality far from being so; it consists in part of reasonable scientific, in part of vague and unscientific, and in part of pseudo-philosophical and clearly false theories operating with all kinds of unfounded or erroneous assumptions and equivocations;

The first two of the quite distinct theories that are called “theory of evolution” (the materialistic and atheistic evolutionist theory and the ‘theistic seamless evolution theory’) are clearly false and philosophically refutable by a philosophy of life, of animals, of the human soul and of personhood, knowledge, and freedom, and by investigating “teleology” and its causes.

The third theory of (limited) evolution, to make any philosophical sense, would have to be radically re-interpreted along the lines of Augustine’s *rationes seminales* or in some similar

⁵⁴ Alfred Wallace inspired Darwin to develop his theory. (See Richards 1987).

intelligent way, in order to avoid any concession in it to the thoroughly unsatisfactory theory of the origin of life in terms of those “intellect-less” and non-explanatory “principles” employed by Huxley, Haeckel and Darwin to explain evolutionary changes. Even then the third theory of evolution meets with a great variety of serious difficulties (missing links, non-morphological qualities of species that do not match morphological similarities, etc.) and hence can only be reasonably defended within relatively narrow limits. Any adequate scientific and philosophical theory of the origin of life has to respect the irreducible in life and most of all in the human person and hence exclude any reductionist elements which contradict the evidence of the existence of spirit and persons that are irreducible to effects of evolution and whose ignoring constitutes the deepest fault of the first two types of theories of evolution.⁵⁵

If the theory of limited evolution within certain genera and species of living things abides by all these “rules”, there is no absolutely cogent purely philosophical objection against the possibility of such a partial evolution even though it is, if it only admits the minimal number of absolutely unbridgeable transitions and allows, for example, for bacteria and elephants having the same ancestor, most implausible; and this in view of empirical (and philosophical) reasons: the fundamental and manifold differences of essential forms, the countless “missing links” and “jumps” between the species, etc. In other words, also this only possibly true theory of (limited) evolution is science-fiction, extremely improbable and at any rate absolutely not “proven”, wherefore every school, University, science department and Biology Institute in the world should have not only the right to teach some doctrine of intelligent design or creation alongside evolution, but the right to refuse teaching (except as an influen-

⁵⁵(See Wojtyła 1978).

tial curiosity in the history of science) a theory which in most of its forms is downright absurd and silly, and in others pure hypothesis and empty speculation.

7 Bibliography

- Aristotle (1976). *De anima*. Ed. by Robert Drew Hicks. New York: Arno Press.
- (1983). *Aristotle's Physics: books I and II*. Ed. by William Charlton. Oxford; New York: Clarendon; Oxford University Press.
- Augustinus, Aurelius (2004). *Corpus Augustinianum Gissense: CAG 2*.
- Bauer, Joachim. (2008). *Das kooperative Gen: Abschied vom Darwinismus*. Hamburg: Hoffmann und Campe.
- Bertalanffy, Ludwig von (1969). *General system theory; foundations, development, applications*. New York: G. Braziller.
- Bleeschmidt, Erich (1976). *Wie beginnt das menschliche Leben*. Stein a. Rh.: Christiana-Verlag.
- Conrad-Martius, Hedwig. (1963). 'Die Seele der Pflanze'. In: *Schriften zur Philosophie*. Ed. by Avé-Lallemant Eberhard. Vol. 1. München: Kösel, pp. 276–362.
- Crosby, John F. (Apr. 1976). 'Evolutionism and the ontology of the human person: Critique of the marxist theory of the emergence of man'. In: *The review of politics* 38 (02), pp. 208–243. DOI: [10.1017/S0034670500026279](https://doi.org/10.1017/S0034670500026279). URL.
- Giertych, Maciej (1994). *No to evolution! Newman graduate education pamphlet*. Chatswood, NSW, Australia.
- (1999). 'Foreword to the Revised Edition.' In: *Creation rediscovered: evolution and the importance of the origins debate*. Ed. by G. J. Keane. Rockford, Ill.: Tan Books and Publishers, pp. ix–xii.
- (Nov. 2006). 'Creationism, evolution: nothing has been proved'. In: *Nature* 444.7117, pp. 265–265. URL.
- (2014). *Lista publikacji naukowych prof. Macieja Giertycha*. URL.
- Hengstenberg, Hans-Eduard (1963). *Evolution und Schöpfung: eine Antwort auf den Evolutionismus Teilhard de Chardins*. München: A. Pustet.
- (1965). *Mensch und Materie; Zur Problematik Teilhard de Chardins*. Stuttgart: W. Kohlhammer.
- Hildebrand, Dietrich von (1960). *What is philosophy?* Milwaukee: Bruce Pub. Co.
- (1967). *Trojan horse in the city of God*. Trans. by Josef Seifert. Chicago: Franciscan Herald Press.
- Johnson, Phillip E. (1991). *Darwin on trial*. Washington, D.C.; Lanham, MD: Regnery Gateway; Distributed to the trade by National Book Network.

- Jonas, Hans (1982). *The phenomenon of life: toward a philosophical biology*. Chicago: University of Chicago Press.
- Krämer, Hans Joachim (1982). *Platone e i fondamenti della metafisica: saggio sulla teoria dei principi e sulle dottrine non scritte di Platone con una raccolta dei documenti fondamentali in edizione bilingue e bibliografia*. Milano: Vita e pensiero.
- Leibniz, Gottfried Wilhelm (1958). *Die Hauptwerke von Leibniz*. Ed. by Gerhard Krüger. Stuttgart: A. Kröner.
- Lennox, John C. (2009). *God's undertaker: Has science buried God?* Oxford: Lion. [URL](#).
- Margenau, Henry (1992). 'The laws of nature are created by God'. In: *Cosmos, bios, theos: scientists reflect on science, God, and the origins of the universe, life, and homo sapiens*. Ed. by Henry Margenau and Roy Abraham Varghese. La Salle, Ill.: Open Court, pp. 57–63.
- Margenau, Henry and Roy Abraham Varghese, eds. (1992). La Salle, Ill.: Open Court.
- Monod, Jacques. (1971). *Chance and necessity: an essay on the natural philosophy of modern biology*. New York: Knopf.
- Platon (2001). *Platon im Kontext Plus griechisch-deutsche Parallelausgabe; mit allen Übersetzungen und Einleitungen Fr. Schleiermachers, ergänzt und übersetzt von Fr. Susemihl, H. Müller Volltextretrieval: ViewLit V.6.1*. 1. Aufl. Literatur im Kontext auf CD-ROM. Berlin: Worm.
- Popper, Karl R. and John C. Eccles (1977). *The self and its brain*. New York: Springer International.
- Reale, Giovanni (1993). *Zu einer neuen Interpretation Platons: Eine Auslegung der Metaphysik der grossen Dialoge im Lichte der "ungeschriebenen Lehren"*. Trans. by Hölscher Ludger. Paderborn: Schöningh.
- (1997). *Toward a new interpretation of Plato*. Trans. by Davies Richard Catan John R. Washington, D.C.: Catholic University of America Press.
- Reinach, Adolf (1969). *Concerning phenomenology*. Trans. by Willard Dallas Bruges: Printed by the St. Catherine Press, pp. 194–221.
- Richards, Robert J. (1987). *Darwin and the emergence of evolutionary theories of mind and behavior*. Chicago: University of Chicago Press.
- Roth, Jay (1992). 'The piling of coincidence on coincidence'. In: *Cosmos, bios, theos: scientists reflect on science, God, and the origins of the universe, life, and homo sapiens*. Ed. by Henry Margenau and Roy Abraham Varghese. La Salle, Ill.: Open Court, pp. 197–201.
- Schrödinger, Erwin (1945). *What is life? The physical aspect of the living cell*, Cambridge: The University press.

- Seifert, Josef (1973). *Leib und Seele: ein Beitrag zur philosophischen Anthropologie*. Salzburg: Pustet.
- (1988). ‘Genetischer Code und Teleologie. Information, Kausalität und Finalität’. In: *Arzt und Christ* H 4, 15pp.
 - (1989a). *Das Leib-Seele-Problem und die gegenwärtige philosophische Diskussion: eine systematisch-kritische Analyse*. 2., korrigierte und erw. Aufl. Darmstadt: Wissenschaftliche Buchgesellschaft.
 - (1989b). *Essere e persona: verso una fondazione fenomenologica di una metafisica classica e personalistica*. 1. Pubblicazioni del Centro di ricerche di metafisica Sezione di metafisica e storia della metafisica. Milano: Vita e pensiero.
 - (1997). *What is life?: the originality, irreducibility, and value of life*. Amsterdam; Atlanta, GA: Rodopi.
 - (2002a). ‘Philosophy and Science in the Context of Contemporary Culture’. In: *The Human Search for Truth: Philosophy, Science, Theology: The Outlook for the Third Millennium, International Conference on Science and Faith, the Vatican, 23-25 May 2000*. Ed. by Saint Joseph’s University Press. St Josephs University Press, pp. 23–71.
 - (2002b). *Preprint: Philosophy and science in the context of contemporary culture*. Opening lecture given by invitation of the pontifical council for culture in rome, on may 23 rd, 2000, jubilee for men and women from the world of learning. International conference on faith and science; the human search for truth. Philosophy – faith: The outlook for the 3rd millennium. [URL](#).
 - (2002c). ‘The idea of the good as the sum-total of pure perfections. A new personalistic reading of republic VI and VII’. In: *New images of Plato: dialogues on the idea of the good*. Ed. by Giovanni Reale and Scolnikov Samuel. Sankt Augustin: Academia Verlag, pp. 407–424.
 - (2009). *Discours des méthodes - the methods of philosophy and realist phenomenology*. Realistische Phänomenologie. Frankfurt: Ontos-Verlag.
 - (2010). *Erkenntnis des Vollkommenen: Wege der Vernunft zu Gott*. Bonn: Lepanto-Verl.
 - (2013). *Conocimiento de Dios por las vías de la razón y del amor*. Madrid: Encuentro.
- Seifert, Josef and Adolf Reinach (2000). *Ritornare a Platone: la fenomenologia realista come riforma critica della dottrina platonica delle idee*. Ed. and trans. by Giuseppe Girgenti. Milano: Vita e pensiero.
- Smith, Wolfgang (1984). *Cosmos & transcendence: breaking through the barrier of scientific belief*. La Salle, Ill.: S. Sugden.

- Spaemann Robert, Löw Reinhard (2005). *Natürliche Ziele: Geschichte und Wiederentdeckung des teleologischen Denkens*. Stuttgart: Klett-Cotta.
- Stein, Gordon (1980). *An Anthology of atheism and rationalism*. Buffalo, N.Y.: Prometheus Books.
- Uexküll, Jakob von (1921). *Umwelt und Innenwelt der Tiere*. Berlin: J. Springer.
- Wojtyła, Karol (1978). 'Subjectivity and the irreducible in the human being'. In: *The human being in action. The irreducible element in man*. Ed. by Anna-Teresa Tymieniecka. Vol. Analecta Husserliana VII. Dordrecht-Holland, Boston-USA, London-UK: Tan Books and Publishers, pp. 107–114.